Recombinant JAK2 protein (His tag)

Catalog Number	544150
Synonyms	Janus kinase 2; JAK-2
Species	Human
Expression System	E. coli
Accession	O60674
Molecular Weight	Predictes a molecular mass of 36.03 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 38 kDa band.

Product Information

Sequence Region	840-1132
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 840-1132 aa (O60674) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant human JAK2 kinase domain (amino acids 840-1132) is a high-purity protein fragment encompassing the complete protein kinase domain of Tyrosine-protein kinase JAK2. This fragment serves as an essential tool for investigating kinase activity, signal transduction mechanisms, and drug discovery targeting JAK-STAT pathways. Tyrosine-protein kinase JAK2 (Janus kinase 2) is a non-receptor tyrosine kinase critical for cell growth, development, differentiation, and immune signaling. It mediates signal transduction through association with type I receptors (growth hormone, prolactin, leptin, erythropoietin, thrombopoietin) and type II receptors (interferons, interleukins). Following ligand binding, JAK2 phosphorylates receptor cytoplasmic tails, creating docking sites for STAT proteins which it subsequently phosphorylates, enabling their nuclear translocation and gene activation. JAK2 also regulates cell cycle progression through CDKN1B phosphorylation and modifies chromatin via histone H3 'Tyr-41' phosphorylation. The protein localizes to the endomembrane system, cytoplasm, and nucleus, reflecting its diverse signaling roles. The provided fragment contains the functional kinase domain essential for these phosphorylation events and signaling activities.